

Watershed Restoration Pre- and Post-fire in the Chiricahua Mountains

Building Relationships One Rock at a Time...

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Restoration Director
Sky Island Alliance



Wildlife Conservation Society Climate Adaptation Fund

- SIA received a grant to work in burned and unburned watersheds
- Test efficacy of rock structures post-fire as well as pre-fire
 - *Is it possible that these structures can increase resilience BEFORE intense wildfire, thereby buffering climate change impacts?*

How does this work?

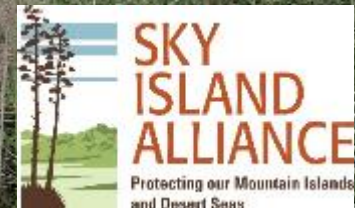
- Increasing the “roughness” of a channel slows water down
 - Slow water drops sediment
 - Channels aggrade
 - Increased infiltration (area and duration)
- Areas of higher soil moisture
 - may not burn as intensely
 - Native vegetation responds to increased soil moisture
 - good for wildlife and diversity
 - Potential areas of refuge during increased drought
- Pre-fire erosion treatment

Sky Island Restoration Cooperative (SIRC) Project Partners

- Coronado National Forest
- US Geological Survey
- Borderlands Restoration
- Sky Island Alliance
- Cuenca los Ojos

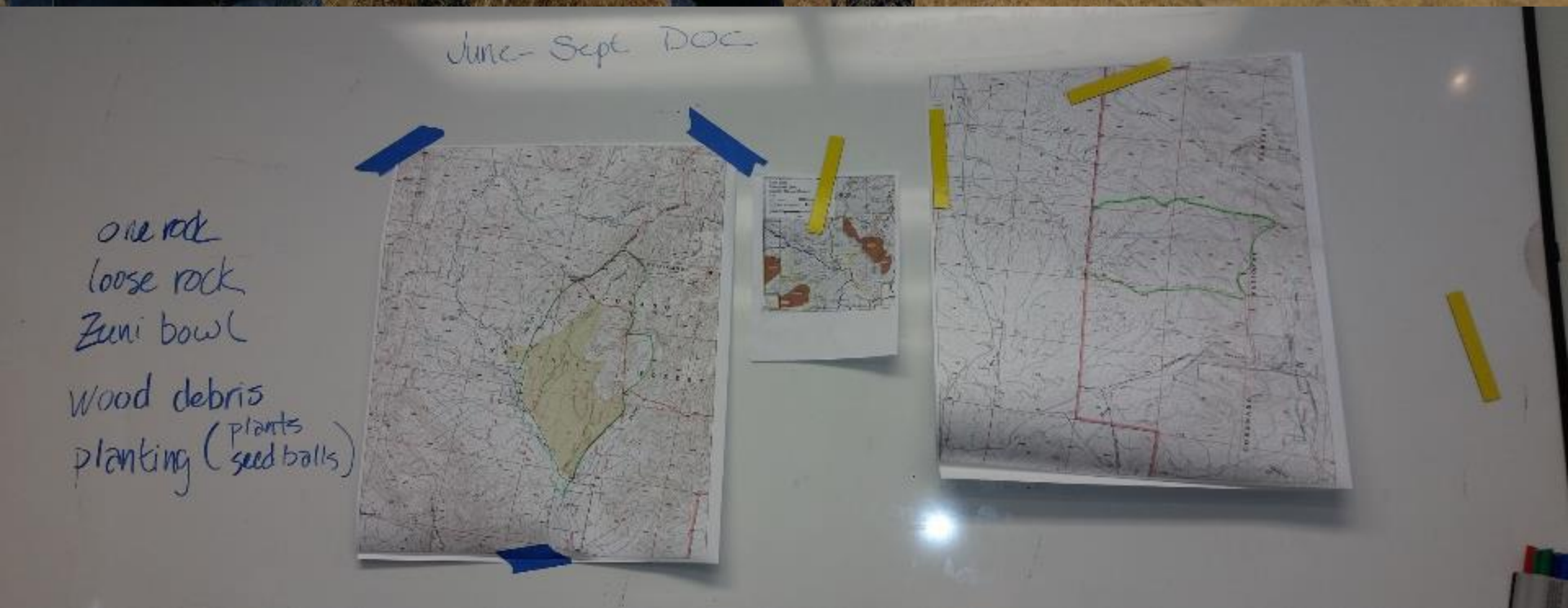


BORDERLANDS
RESTORATION





Kick-off Meeting January 2015



June - Sept DOC

- one rock
- loose rock
- Zuni bowl
- Wood debris
- planting (plants seed balls)



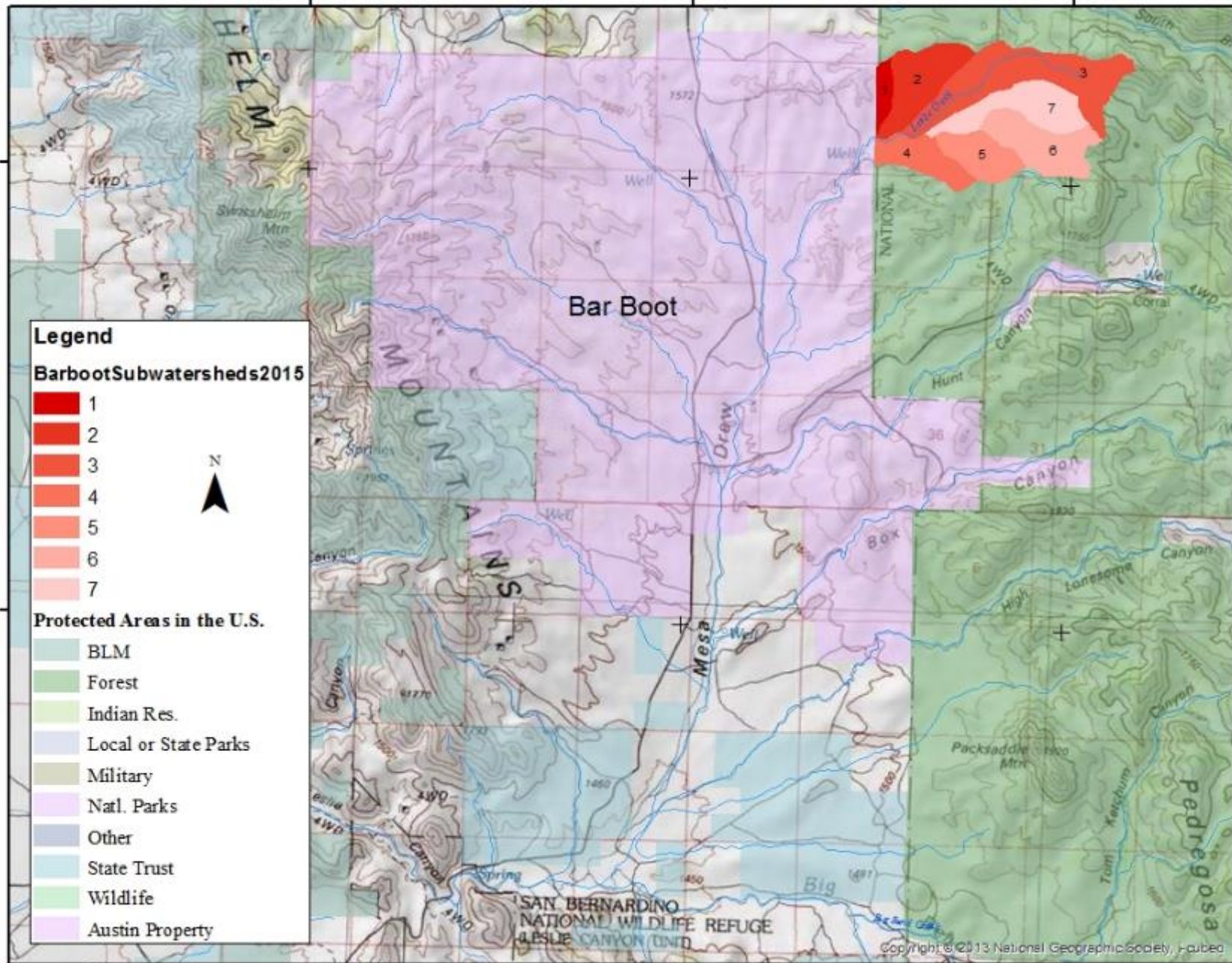
109°32'0"W

109°28'30"W

109°25'0"W

31°41'0"N

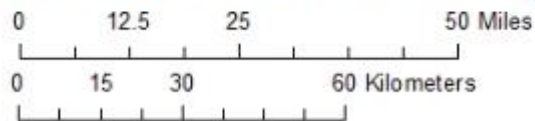
31°37'30"N



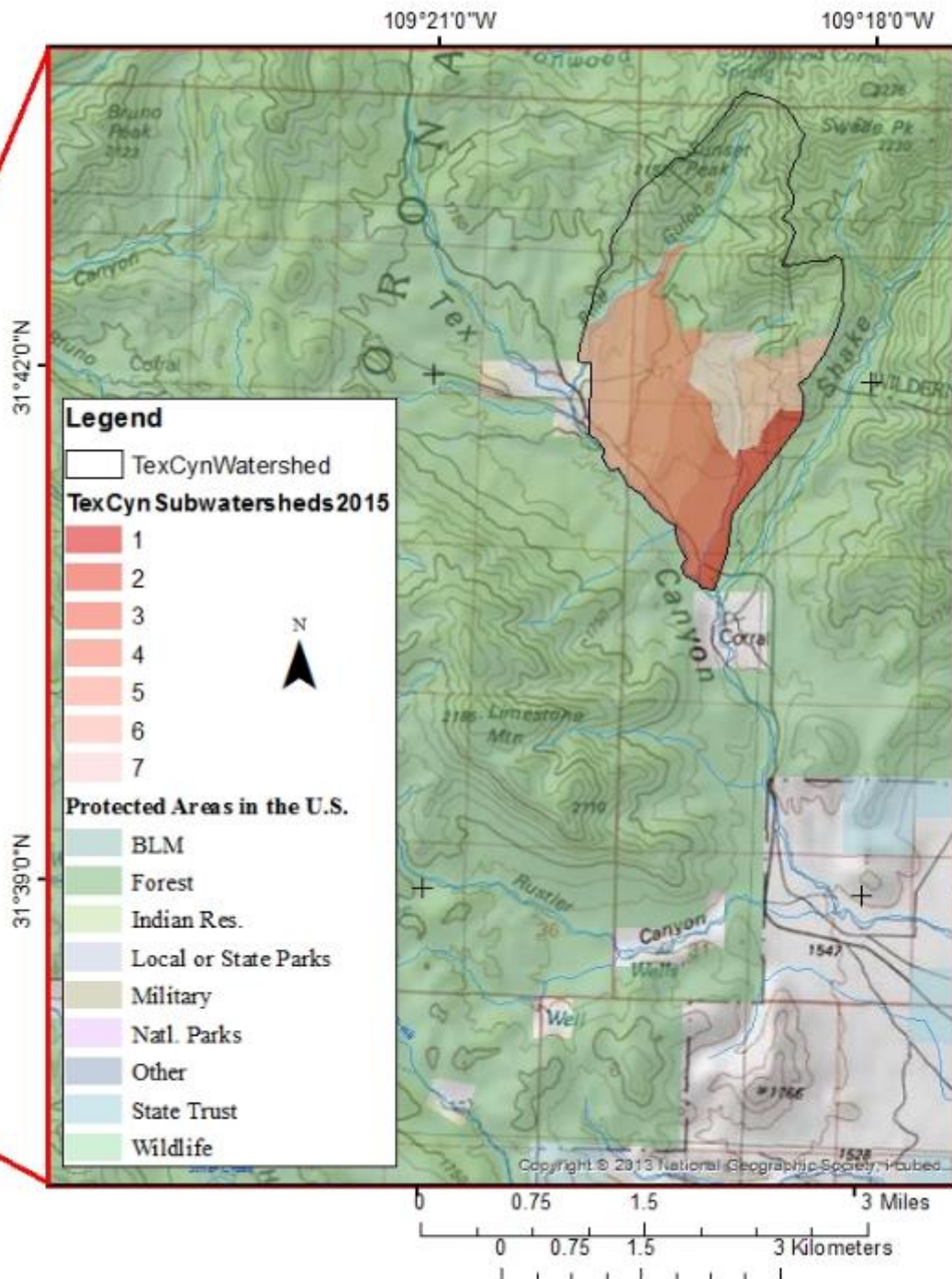
0 0.75 1.5 3 Miles

0 1.25 2.5 5 Kilometers

San Simon Watershed Arizona and New Mexico



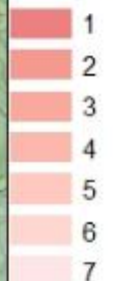
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and others. P Corp.



Legend

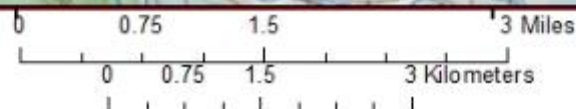
TexCynWatershed

TexCyn Subwatersheds 2015

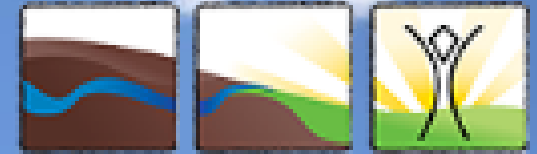


Protected Areas in the U.S.

- BLM
- Forest
- Indian Res.
- Local or State Parks
- Military
- Nat. Parks
- Other
- State Trust
- Wildlife



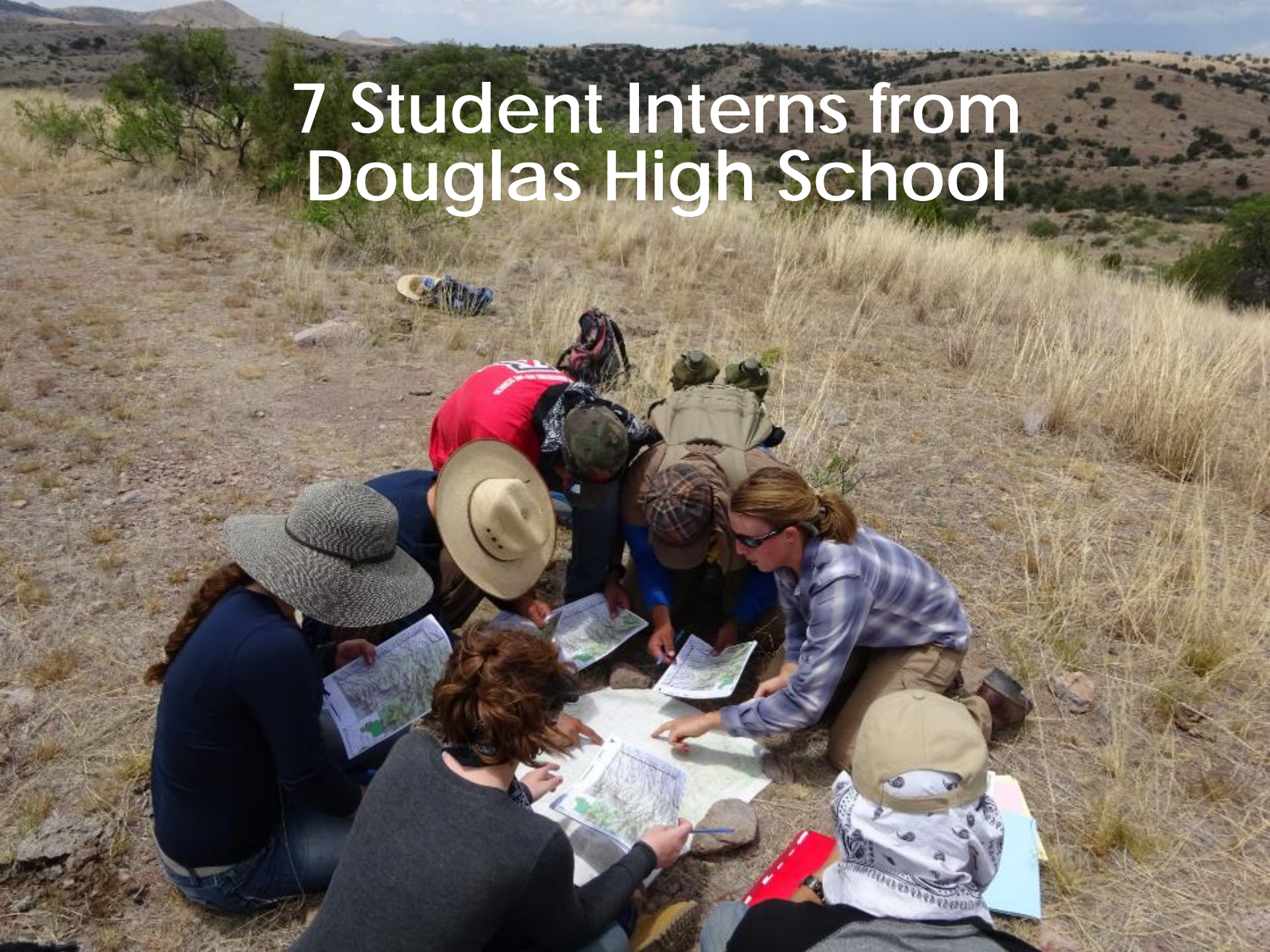
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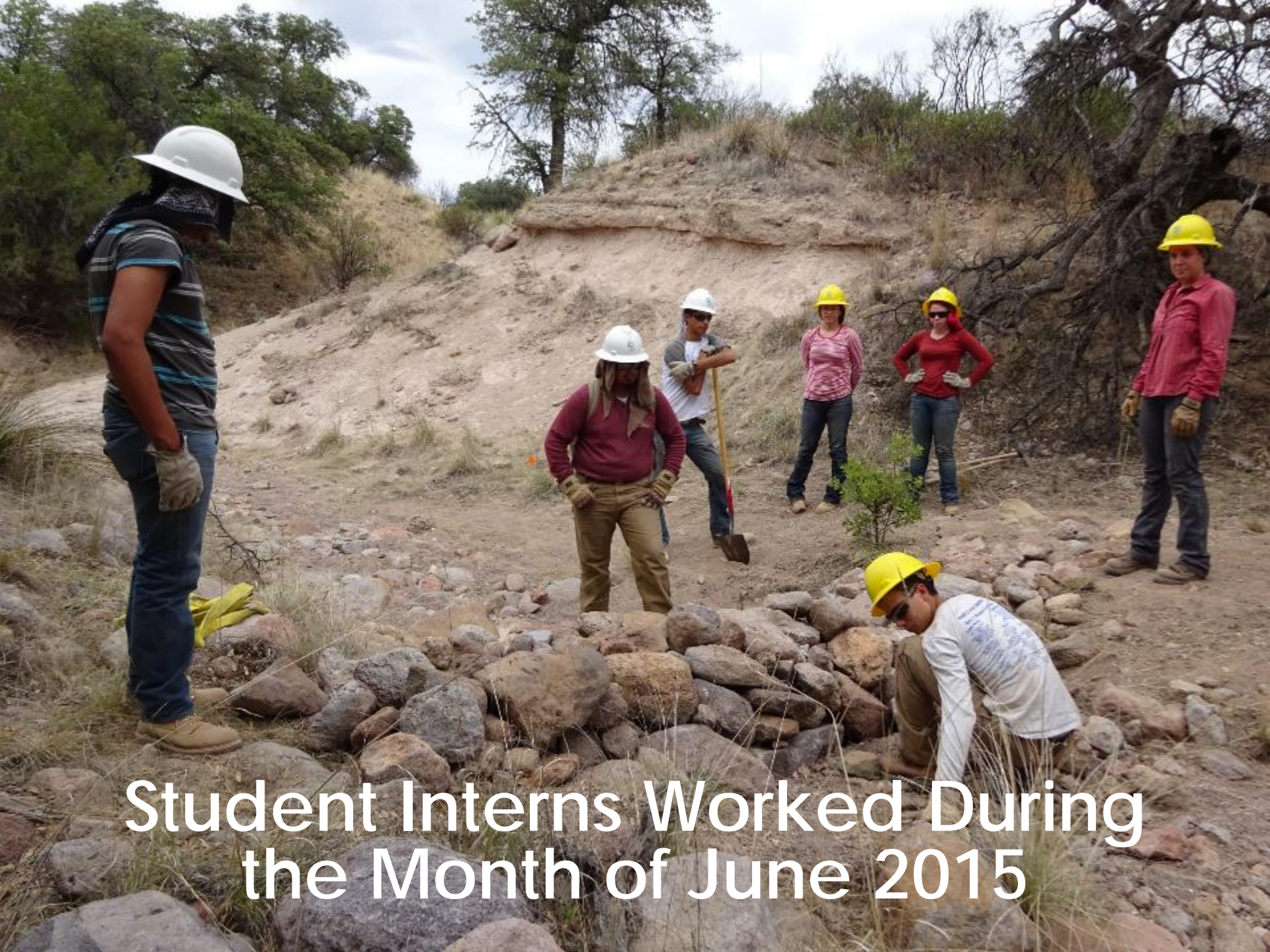


BORDERLANDS
RESTORATION

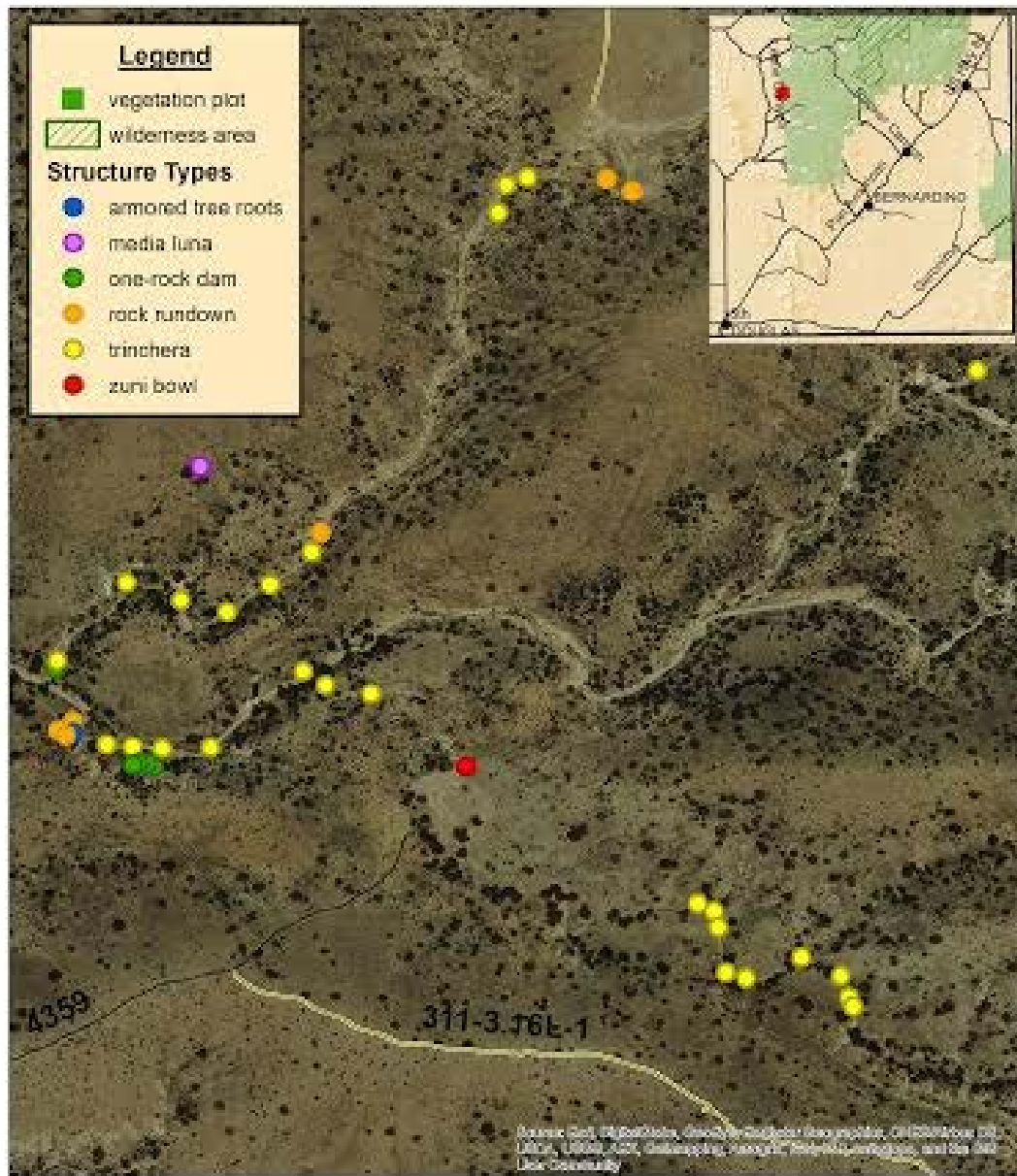
Borderlands Earth Care Youth
Institute (BECY) Douglas
funded by Douglas Ranger District

7 Student Interns from Douglas High School





Student Interns Worked During the Month of June 2015



Almost 50 structures installed at Barboot by BECY-Douglas!



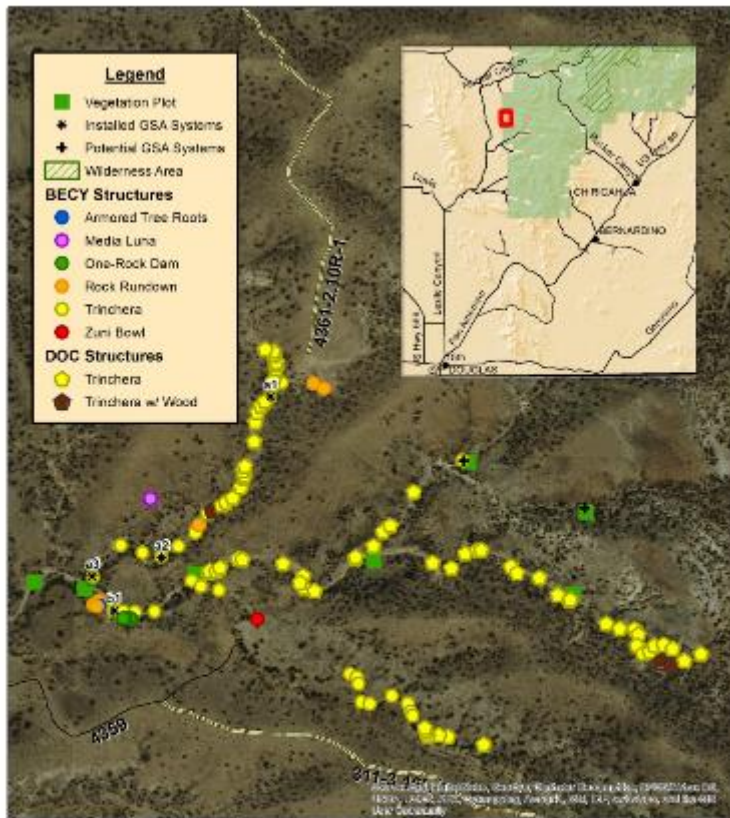
Department of Corrections Crew- Tex Canyon and Barboot

Funded by Douglas Ranger District

- 30 days of work
- Supervised by USFS/BR, some support from SIA

As-Built Stats:

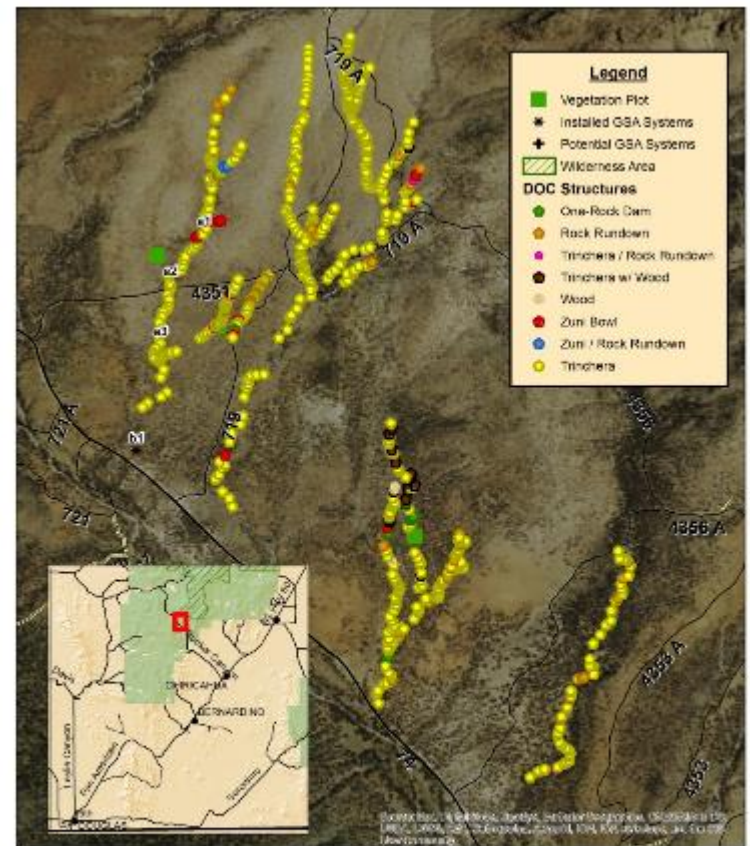
Over 700 structures installed * over 1km of actual rock applied



Bar Boot Canyon



0 0.125 0.25 0.5 Miles



Tex Canyon



0 0.125 0.25 0.5 Miles



BEFORE (May)



DURING (June)



AFTER (Aug)

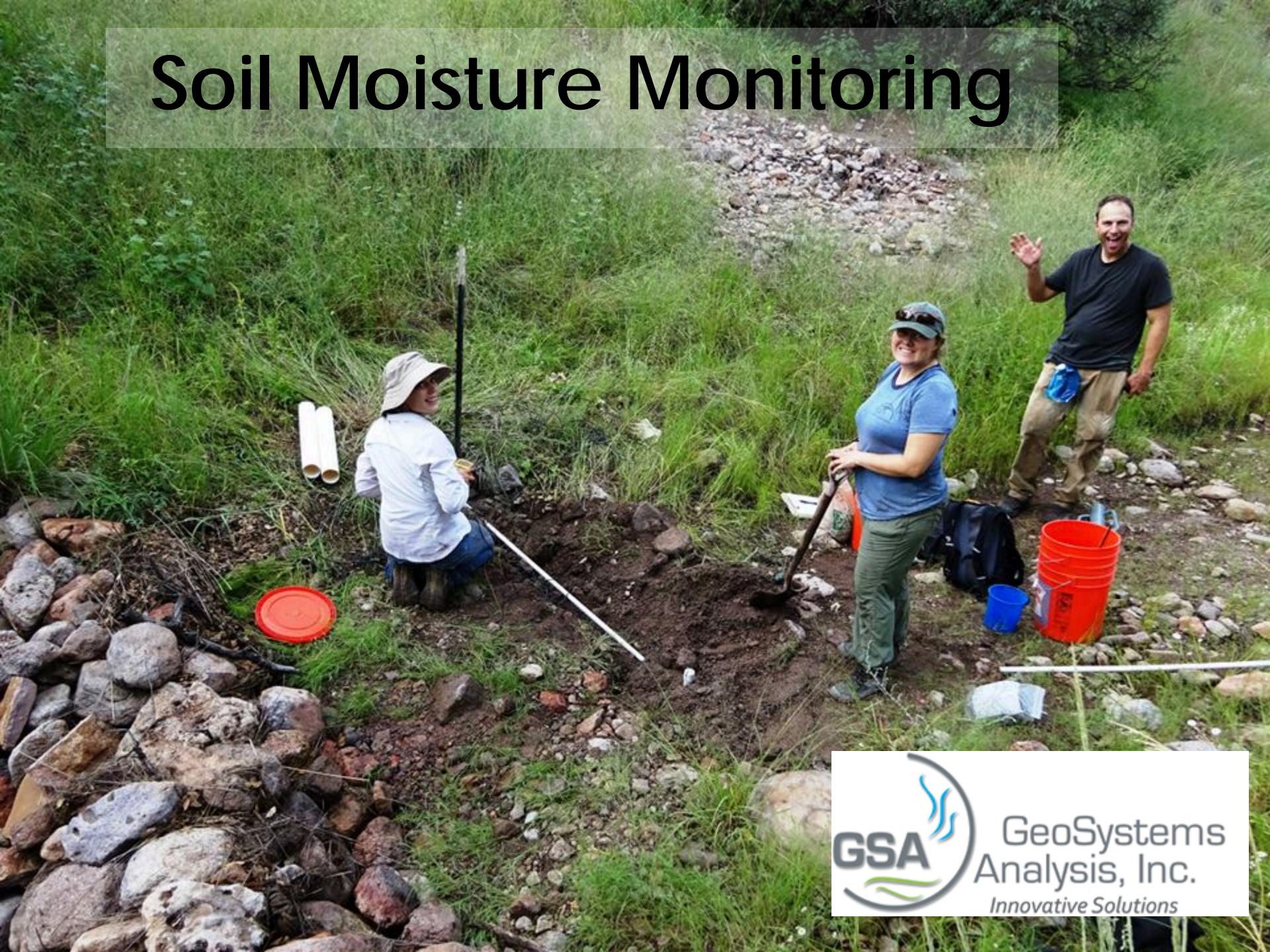




Vegetation Monitoring: Long-term and Short-term Plots



Soil Moisture Monitoring





This monitoring made possible due to cost-savings on labor through creative collaboration

Botany Blitz 2015

- Floral inventories at 5 sites (Tex, Barboot, Hermitage, Camp Rucker, Rucker Spring)
- Team of expert botanists





Bringing this Work to Landscape-Scale

Coronado National Forest is working toward NEPA analysis for this type of work for the entire Chiricahua Range

- Potentially cross-jurisdictional with BLM, NPS, and private landowners